CLAIMS

1. An update method for updating search data used in a navigation apparatus, comprising:

providing data constituted with search tree data and a plurality of sets of substance data specified based upon the search tree data, as search data prior to an update; and

providing a set of substance data having search-related information separately from the data constituted with the search tree data and the plurality of sets of substance data specified based upon the search tree data, when updating a set of substance data in the search data or adding a set of substance data to the search data.

2. An update method for updating search data used in a navigation apparatus according to claim 1, further comprising:

storing the provided set of substance data having search-related information as update data in the navigation apparatus separately from the search tree data and the plurality of sets of substance data specified based upon the search tree data.

3. A search data update system, comprising:

a navigation apparatus that uses search data; and

a search data providing apparatus that provides update data to be used to update the search data to the navigation apparatus, wherein:

the navigation apparatus includes a first storage device at which first search data constituted with search tree data and a plurality of sets of substance data each specified based upon the search tree data are stored, a second storage device and an update data obtaining device that obtains the update data to be used to update the search data from the search data providing apparatus;

the update data are provided in units of individual sets of substance data and include attached thereto information to be used in a search in correspondence to each set of substance data;

upon obtaining the update data from the search data providing apparatus, the update data obtaining device stores the obtained update data into the second storage device separately from the first search data; and

the navigation apparatus further includes a search device that executes a substance data search by using the first search data stored in the first storage device and the update data stored in the second storage device.

4. A search data update system according to claim 3, wherein:

upon obtaining new update data, the update data obtaining device in the navigation apparatus sorts entire update data including the new update data and the update data already stored in the second storage device based upon the information to be used in a search and stores the sorted update data in the second storage device.

5. A search data update system according to claim 3 or claim 4, wherein:

the navigation apparatus further includes a control device that executes navigation processing including route search and route guidance by using the substance data obtained via the search device.

6. A search data update system according to any of claims 3 through 5, wherein:

once a number of sets of update data having been obtained becomes equal to or greater than a predetermined value, the update data obtaining device in the navigation apparatus provides an audio output or a display output notifying that the number of sets of update data is equal to or greater than the predetermined value.

7. A search data update system according to any of claims 3 through 5, wherein:

once a number of sets of update data having been obtained becomes equal to or greater than a predetermined value, the update data obtaining device in the navigation apparatus obtains a new version of first search data constituted with new search tree data and a plurality of sets of substance data containing substance data in the update data each specified based upon the new search tree data and stores the new version of first search data thus obtained into the first storage device.

8. A search data update system according to claim 5, wherein:

the navigation apparatus further includes an input device with which a search key can be entered one character at a time, wherein:

in correspondence to each character entered via the input device, the search device advances a search executed by using the search tree in the first search data, also compares the character with the information to be used in a search, which is contained in each of a plurality of sets of update data stored in the second storage device, and attaches a non-target index to each set of update data determined not to be a search target based upon comparison results.

9. A search data update system according to any of claims 3 through 8, wherein:

the update data obtaining device in the navigation apparatus transmits to the search data providing apparatus information indicating a range of search data to be updated; and

if update data are available over the range of search data to be updated indicated in the received information, the search data providing apparatus provides the update data over the range to the navigation apparatus.

10. A search data update system according to any of claims 3 through 9, wherein:

the update data obtaining device in the navigation apparatus transmits to the search data providing apparatus information related to a version of the update data stored in the second storage device; and

if a newer version of substance data than the version indicated in the received information is available, the search data providing apparatus provides the update data corresponding to the newer version of the substance data to the navigation apparatus.

11. A navigation apparatus in a search data update system according to any of claims 3 through 10.

12. A search data providing apparatus in a search data update system according to any of claims 3 through 10.